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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIROMITSU YAMAKAWA

Appeal 2008-5091
Application 10/811,816
Technology Center 2800

Decided:¹ March 23, 2009

Before CHARLES F. WARREN, ROMULO H. DELMENDO, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Statement of the Case

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1-17 and 19. Claims 18 and 20 stand objected to and are not on appeal. (App. Br. 3). We have jurisdiction under 35 U.S.C. § 6.²

Appellant's invention relates a laser array imaging lens that may be used to scan laser light from a semiconductor laser array light source onto a surface to be scanned. The laser array imaging lens is suitable for use in an image forming device such as a laser printer. (Spec. 2). Claim 1 is illustrative:

1. A laser array imaging lens consisting of:
 - a single lens component with or without a stop positioned on the image side of the single lens component;
 - at least one surface of the single lens component is both anamorphic and aspheric; and
 - a diffractive optical element that is either superimposed on said at least one surface or is formed on another surface of the single lens component, said diffractive optical element being defined by a phase function.

Appellant appeals the following rejections:

- (a) Claims 1 and 9 stand rejected under 35 U.S.C. §102(b) as anticipated by Ishibe, U.S. Patent No. 6,067,106, issued May 23, 2000;
- (b) Claims 3, 7, 11 and 15 stand rejected under 35 U.S.C. § 103(a) as obvious over Ando, U.S. Patent No. 5,991,063, issued November 23, 1999,

² In rendering this Decision, we have considered the Appellant's arguments presented in the Appeal Brief dated May 29, 2007 and the Reply Brief dated November 13, 2007.

in view of Imakawa, US. Patent No. 5,671,077, issued September 23, 1997;

(c) Claim 2 stands rejected under 35 U.S.C. § 103(a) as obvious over Ishibe in view of Sissom, U.S. Patent No. 5,912,768, issued June 15, 1999;

(d) Claims 5 and 13 stand rejected under 35 U.S.C. § 103(a) as obvious over Ishibe in view of Paoli, U.S. Patent No. 5,956,070, September 21, 1999;

(e) Claims 6, 10, 14, 17 and 19 stand rejected under 35 U.S.C. § 103(a) as obvious over Ishibe, Sissom, and Paoli; and

(f) Claims 4, 8, 12 and 16 stand rejected under 35 U.S.C. § 103(a) as obvious over Ando, Imakawa, and Sissom.

We have thoroughly reviewed each of Appellant's arguments for patentability. However, we find that the Examiner's rejections are well-founded and supported by the prior art evidence relied upon. Accordingly, we will sustain the Examiner's rejections for the reasons set forth in the Answer, and we add the following primarily for emphasis.

Appellant contends that the Examiner reversibly erred in rejecting the appealed claims under §§ 102(b) and 103(a). Appellant contends that the claimed invention is directed to a “laser array imaging lens”, and that the term “imaging lens” refers to a lens having low distortion whereas the term “f-θ lens” is a term of art that refers to a lens having high distortion that is not suitable for imaging an extended object such as a laser array.^{3, 4}

³ Appellant presents the same argument for the § 103 rejections. (App. Br. 8-11).

⁴ Appellant in the principal Brief has not argued that the remaining structural features specified in claims 1 and 9 are not described by the Ishibe reference.

(App. Br. 7). Appellant contends that the Specification teaches that the phrase “laser array imaging lens” as used in the preamble does not merely recite the purpose or the intended use for the invention. (Reply Br. 8).

The issue before us is whether Appellant has shown that the Examiner reversibly erred in rejecting the claims under 35 U.S.C. §§ 102(b) and 103(a). We answer this question in the negative. Therefore, WE AFFIRM.

We begin by considering the claim. Specifically, we focus on the preamble phrase “laser array imaging lens” (claim 1) to determine if it gives “life, meaning and vitality” to the claim.

To properly address the issue before us, we must analyze the claim language to determine the scope and meaning of each contested limitation. *See Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997).

A preamble is not accorded significant weight in the definition of claimed subject matter to the extent that it is merely a nametag or label for the subject matter defined by the limitations recited in the body of the claims. It is only when terms in the preamble “give life, meaning and vitality” to the claim that they are given patentable weight. *Bristol-Myers Squibb Co. v. Ben Venue Labs. Inc.*, 246 F.3d 1368, 1373–74 (Fed. Cir. 2001) (“If the body of the claim sets out the complete invention, and the preamble is not necessary to give “life, meaning and vitality” to the claim, “then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation.”’); *Pitney Bowes, Inc. v. Hewlett Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999).

Whether a statement of purpose or intended use in the preamble of a claim and/or in the body of the claim constitutes a limitation or limitations that are

necessary to give meaning to the claim and properly define the invention is “determined on the facts of each case in view of the claimed invention as a whole.” *In re Stencel*, 828 F.2d 751, 754-55 (Fed. Cir. 1987).

“[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc).

The Specification regarding the lens discloses:

The laser array imaging lens of the present invention is characterized by being anamorphic and causing light rays that emerge close to the center of the beams emitted from the light emitting elements to be refracted by the laser array imaging lens so as to intersect one another at a common point on the optical axis of the laser array imaging lens, and the laser array imaging lens consists of a single lens element having an aspherical surface on at least one surface.

(Spec., paragraph bridging 3-4).

It is preferable that the laser array imaging lens of the present invention includes one or more of the following: (a) an anamorphic, aspheric surface on at least one surface; (b) a stop that is arranged in the vicinity of a region where rays that are close to the center of the beams from the light emitting elements intersect each other; and (c) when combined with a laser array light source, that a specified condition is satisfied.

(Spec. 4).

The Specification regarding the laser array light source discloses:

a semiconductor laser array light source 1 that includes numerous light emitting elements arranged in a line that defines a first direction, herein called the scanning direction; and a laser

array imaging lens 2 that converges the light from each light emitting element so that light rays from all the light emitting elements overlap in space, or in space as well as time, in a region centered about the optical axis of the laser array imaging lens 2 and so that each light emitting element is focused onto an image surface 4 in a non-overlapping manner. Positioned at the image surface is a document to be scanned so as to impart image information onto the document, which is moved in the sub-scanning direction after each exposure to all the individually modulated light beams in a row. Preferably all the individual light emitting elements emit light simultaneously, so as to obtain the equivalent of high-speed scanning in the scanning direction.

(Spec., paragraph bridging 4-5).

The laser array is created by the light source. Specifically the Specification states:

The above semiconductor laser array light source 1 is made by arraying over 2,000 very small semiconductor laser elements (called laser elements hereinafter) in one or more straight lines as light emitting elements. The individual laser elements can be modulated independently based on a prescribed signal so together they produce a "scan line" in the traditional sense. Although the term "scan line" is used herein, it should be noted that the present invention enables an entire line of light emitting elements, or even multiple lines of light emitting elements, to be imaged simultaneously onto an image surface so as to record one or more "scan lines".

(Spec. 5) (emphasis added).

The body of claim 1 provides the complete structure of the claimed lens device and does not describe the arrayed light. Specifically, the claim describes a single lens component with or without a stop positioned on the image side of the single lens component; at least one surface of the single lens component is both

anamorphic and aspheric; and a diffractive optical element that is either superimposed on said at least one surface or is formed on another surface of the single lens component, said diffractive optical element being defined by a phase function. Thus, the lens of the present invention accepts the arrayed light from the light source, converges the light from each light emitting element so that light rays from all the light emitting elements overlap in space, or in space as well as time, in a region centered about the optical axis of the lens so that each light emitting element is focused onto an image surface in a non-overlapping manner. Appellant has not directed our attention to any limitations recited in the body of the claim that refer back to the preamble or rely on the preamble in such a way that the preamble terms constitute or explain any of the subsequent limitations. Nor have we been directed to any persuasive evidence or description in the Specification that establishes that the preamble necessarily recites additional structural limitations not present in the remainder of the claim.

Appellant contends that the claimed invention is directed to a “laser array imaging lens” and that the term “f-θ lens” is a term of art that refers to high distortion lenses and is not suitable for imaging an extended object such as a laser array. (App. Br. 7). The Examiner asserted that “f-θ lenses” are well-known by persons of ordinary skill in the art to be suitable for scanning and imaging light beams emitted from a laser array. In support of this position the Examiner referred to the Ando reference (US 5,671,077). (Ans. 13-14). Appellant has not disputed that Ando describes “f-θ lenses” that are suitable for scanning and imaging light beams emitted from a laser array. However Appellant contends that the lens of Ando is a scanning lens and is not capable of forming an image of an extended object without using additional scanning means. (Reply Br. 7). Appellant’s contention is not persuasive, because the claimed invention is not

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limited to a lens that is capable of forming an image of an extended object without using additional scanning means. Appellant has also not limited the claimed invention to a low distortion lens.

Regarding the § 103 rejections, Appellant asserts that these claims are patentable for the reasons discussed above. In this regard, Appellant does not assert non-obviousness based on the additional limitations set forth in the claims subject to these rejections by explaining how the additional references applied thereto by the Examiner fail to establish the obviousness of the additional features recited in these separately rejected claims. Because we do not find Appellant's arguments persuasive as discussed above, it follows that we shall also affirm these rejections as advanced by the Examiner.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

ORDER

The Examiner's decision rejecting claims 1 and 9 under 35 USC §102(b) is affirmed. The Examiner's decision rejecting claims 2-8, 10-17 and 19 under 35 U.S.C. § 103(a) is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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